

Pat

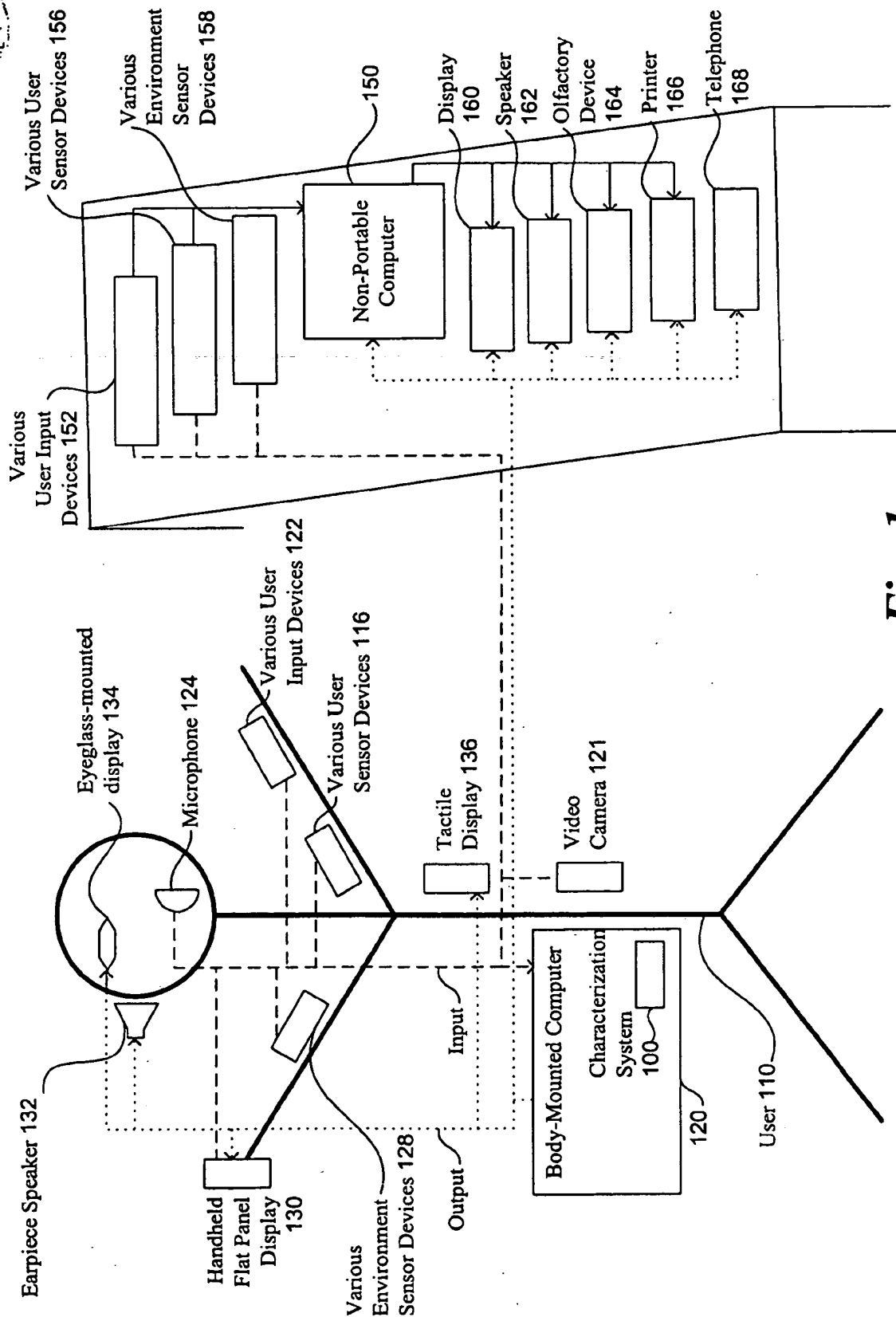
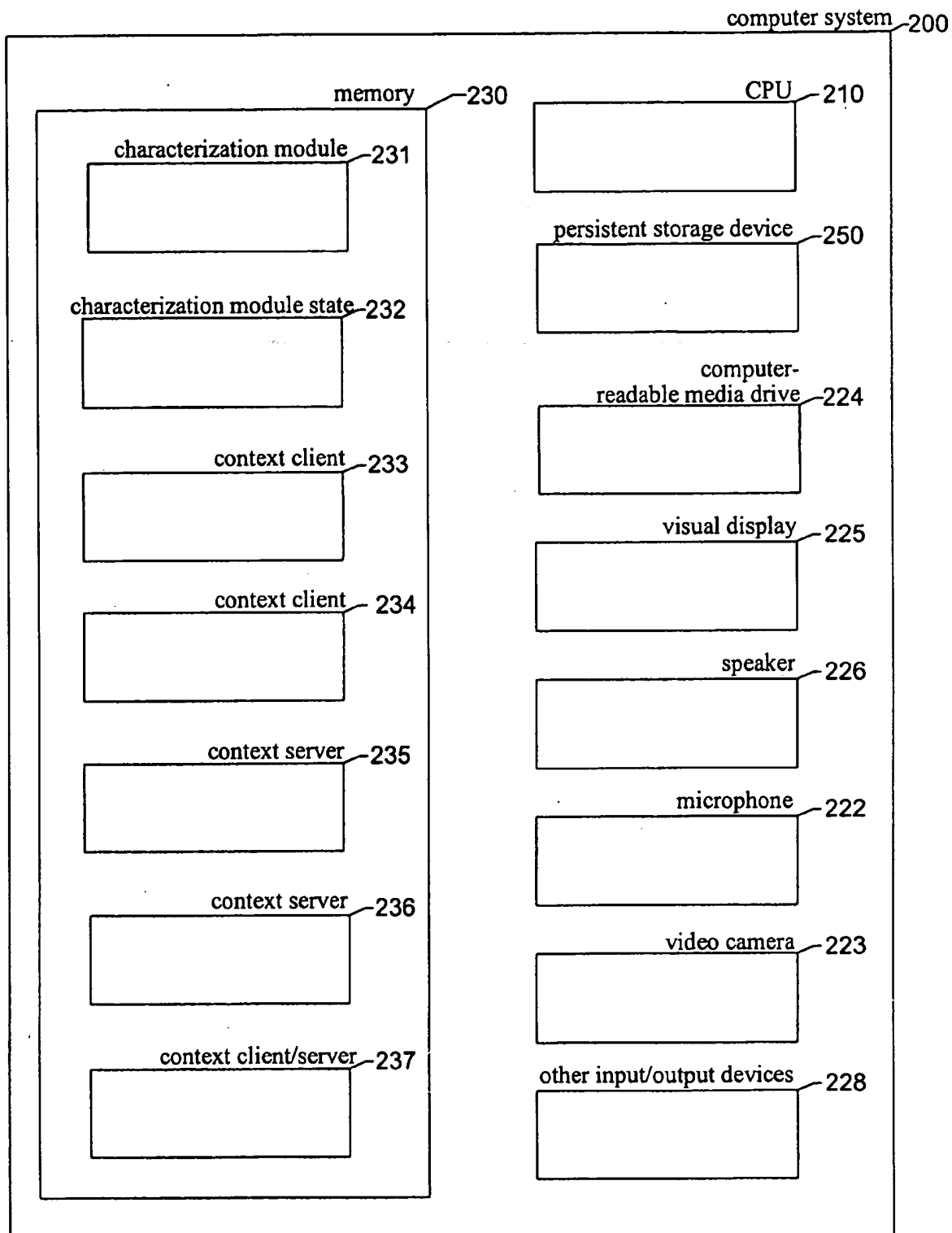
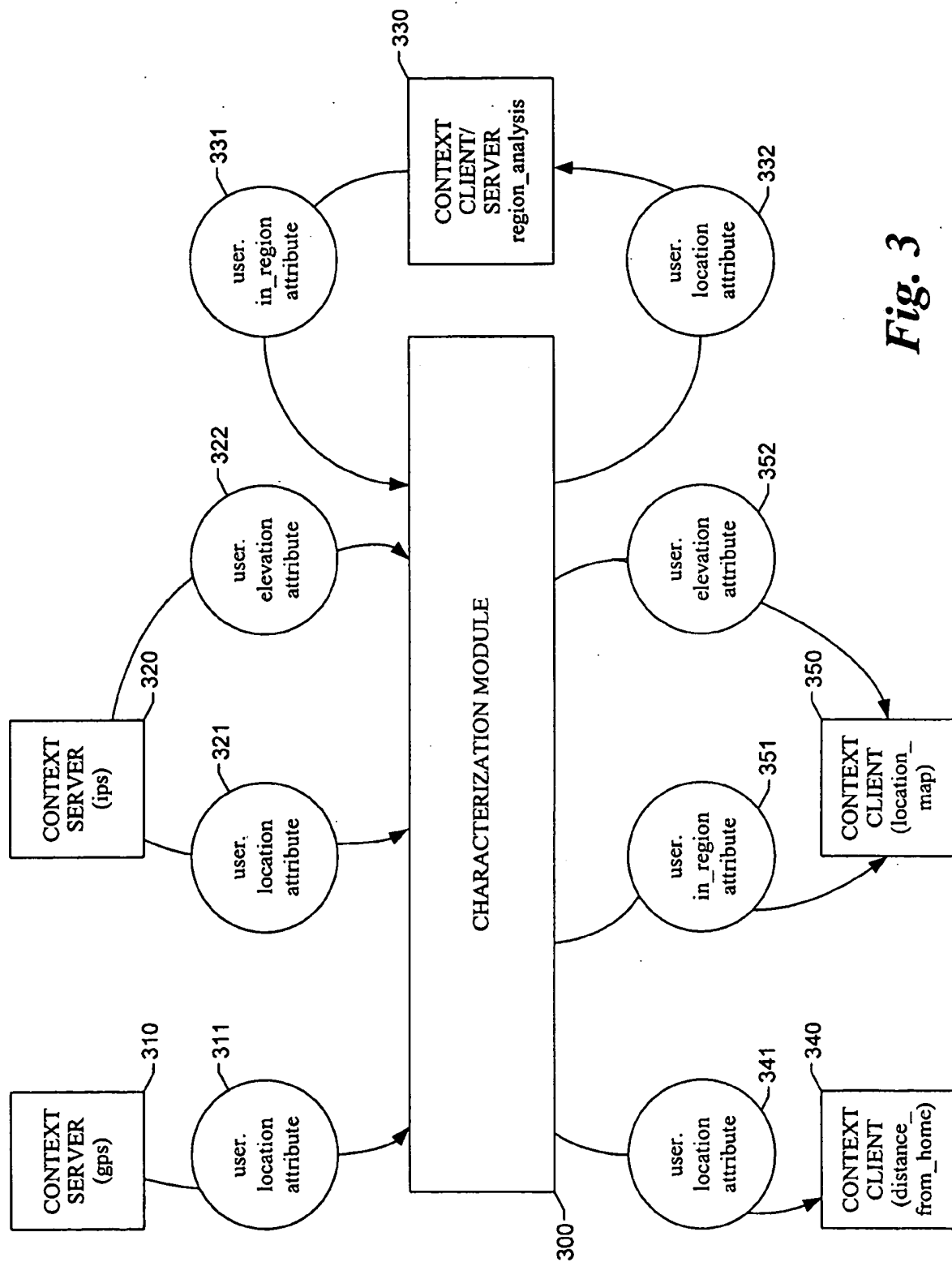
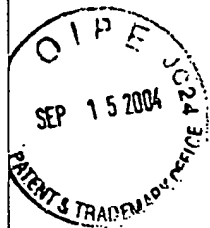


Fig. 1



*Fig. 2*



**Fig. 3**



context server table 400				
context server name	version	installation date	filename	request handler
401 gps	1	2/10/2000	gps.exe	(reference)
402 ips	1	2/21/2000	ips.exe	(reference)
403 location_region_analysis	1	2/10/2000	l_r_a.exe	(reference)
411		412	413	414
415				

Fig. 4

attribute instance table						
attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
501 user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
502 user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
503 user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
504 user.in_region	location_region_analysis	none	none	none	none	0
511		512	513	514	515	516
517						

Fig. 5



600	context client name	message handler	context client table
601	location_map	(reference)	
602	distance_from_home	(reference)	
603	region_analysis	(reference)	

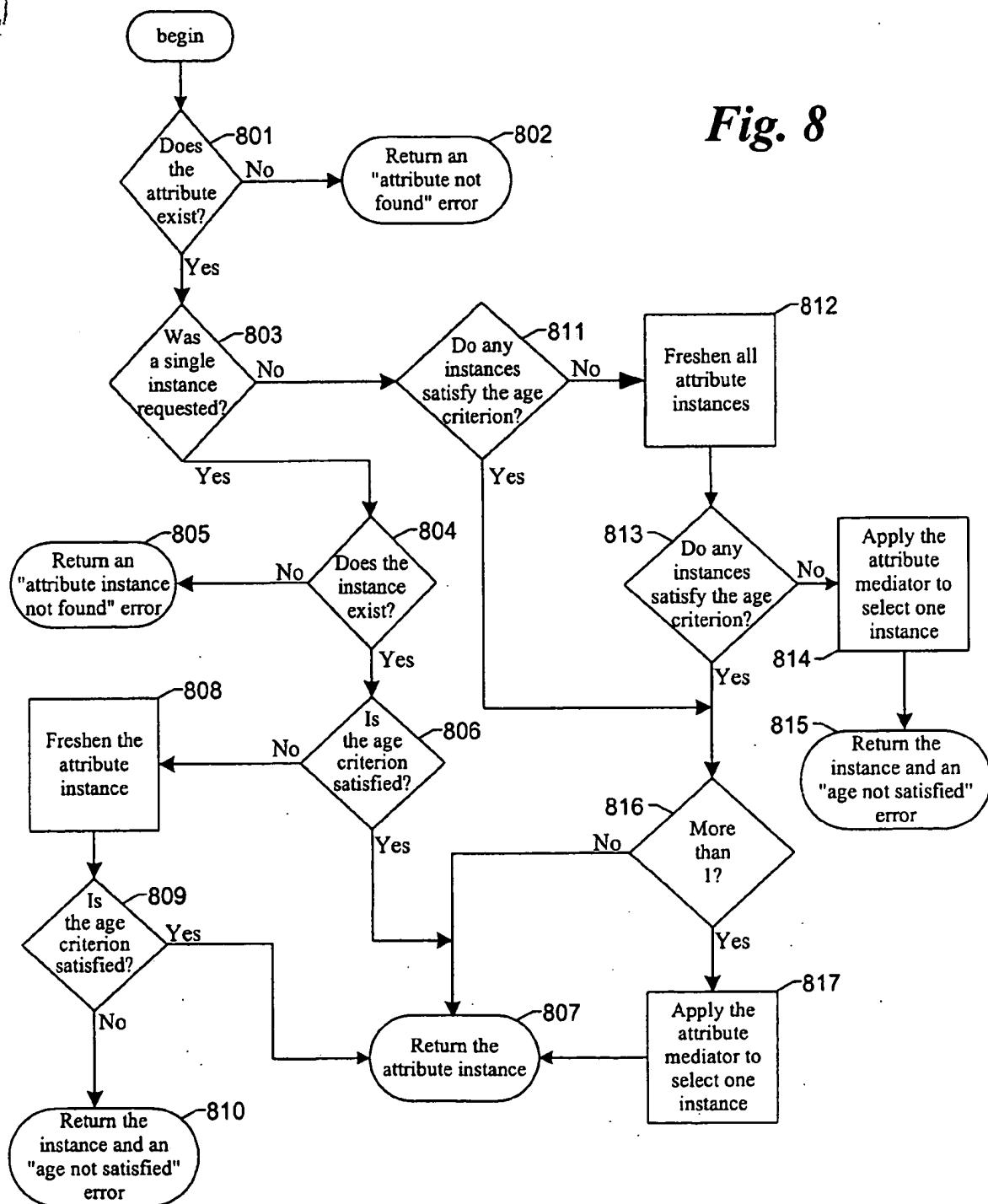
Fig. 6

700	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming	attribute instance table
701	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2	
702	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2	
703	user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1	
704	user.in_region	location_region_analysis	none	none	none	none	1	

Fig. 7



**Fig. 8**



attribute instance table

attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
user.elevation	ips	22.25	.5	13:11:06.565 2/22/2000	meters	1
user.in_region	region_analysis	none	none	none	none	1

Fig. 9

condition table

condition name	context client name	first logical parameter	second logical parameter	comparison value	logical operator
in_region_true	region_analysis	user.in_region	none	TRUE	=

Fig. 10



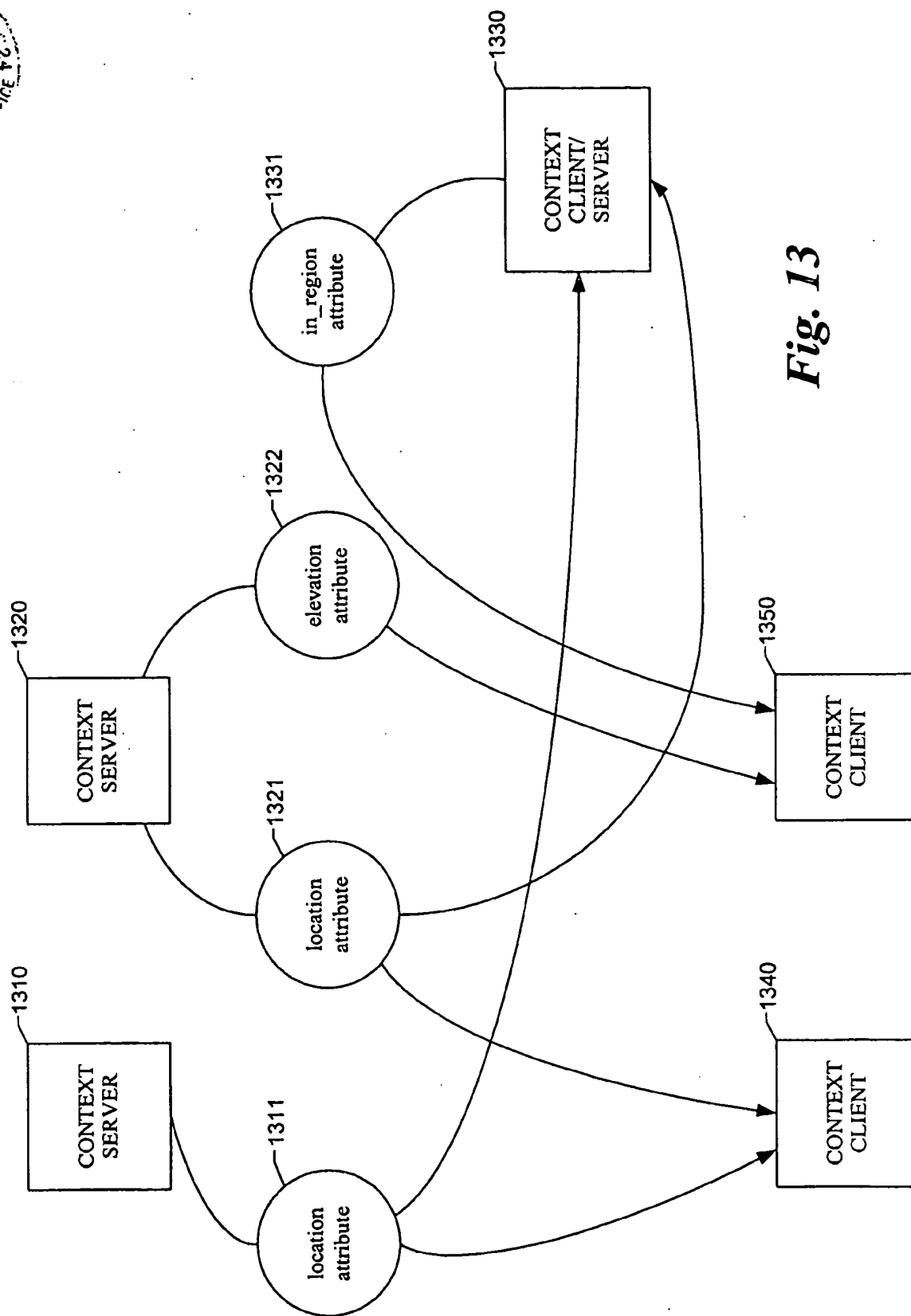
condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:29.101 2/22/2000	(reference)	no	

Fig. 11

condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:59.101 2/22/2000	(reference)	yes	

Fig. 12





*Fig. 13*

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attribute request table

	attribute name	context client name
1401	user.location	distance_from_home
1402	user.in_region	location_map
1403	user.location [gps]	location_region_analysis
1404	user.elevation	location_map

1411

1412

*Fig. 14*



**User.**

Desired\_privacy\_level

Interruptibility

Speed

Direction

Acceleration

Availability.

Cognitive\_availability

Tactile\_availability

Manual\_availability

Visual\_availability

Oral\_availability

Auditory\_availability

Proximity.<Item or place name>

Mood.

Happiness

Sadness

Anger

Frustration

Confusion

Activity.

Driving

Eating

Running

Sleeping

Talking

Typing

Walking

Location.

Place\_name

Latitude

Longitude

Altitude

Room

Floor

Building

Address

Street

City

County

State

Country

Postal\_Code

Destination. (same as User.Location.)

Physiology.

Pulse

Body\_temperature

Blood\_pressure

Respiration

Person.<name or ID>. (same as User.)

**Platform.**

UI.

Oral\_input\_device\_availability

Manual\_input\_device\_availability

Tactile\_output\_device\_availability

Visual\_output\_device\_availability

Auditory\_output\_device\_availability

**Platform. (continued)**

CPU.

Load

Speed

Memory.

Total\_capacity

Used

Storage.

Total\_capacity

Used

Connectivity.

Connection\_status

Connection\_speed

Connection\_type/device

Connection\_activity

Power.

Power\_source

Power\_level

**Environment.**

People.

Nearest

Number\_present

Number\_close

Local.

Time

Date

Temperature

Pressure

Wind\_speed

Wind\_direction

Absolute\_humidity

High\_forecast\_temperature

Low\_forecast\_temperature

People\_present

Ambient\_noise\_level

Ambient\_light\_level

Days.<previous or future>.

High\_temperature

Low\_temperature

Precipitation\_type

Precipitation\_amount

Place.<place name>. (same as Environment.Local)

**Application.**

Mail.

Available

New\_messages\_waiting

Messages\_waiting\_to\_be\_sent

Phone.

Available

In\_use

On/off

Notification\_mechanism

Call\_incoming

Caller\_ID

Sound\_recorder.

Available

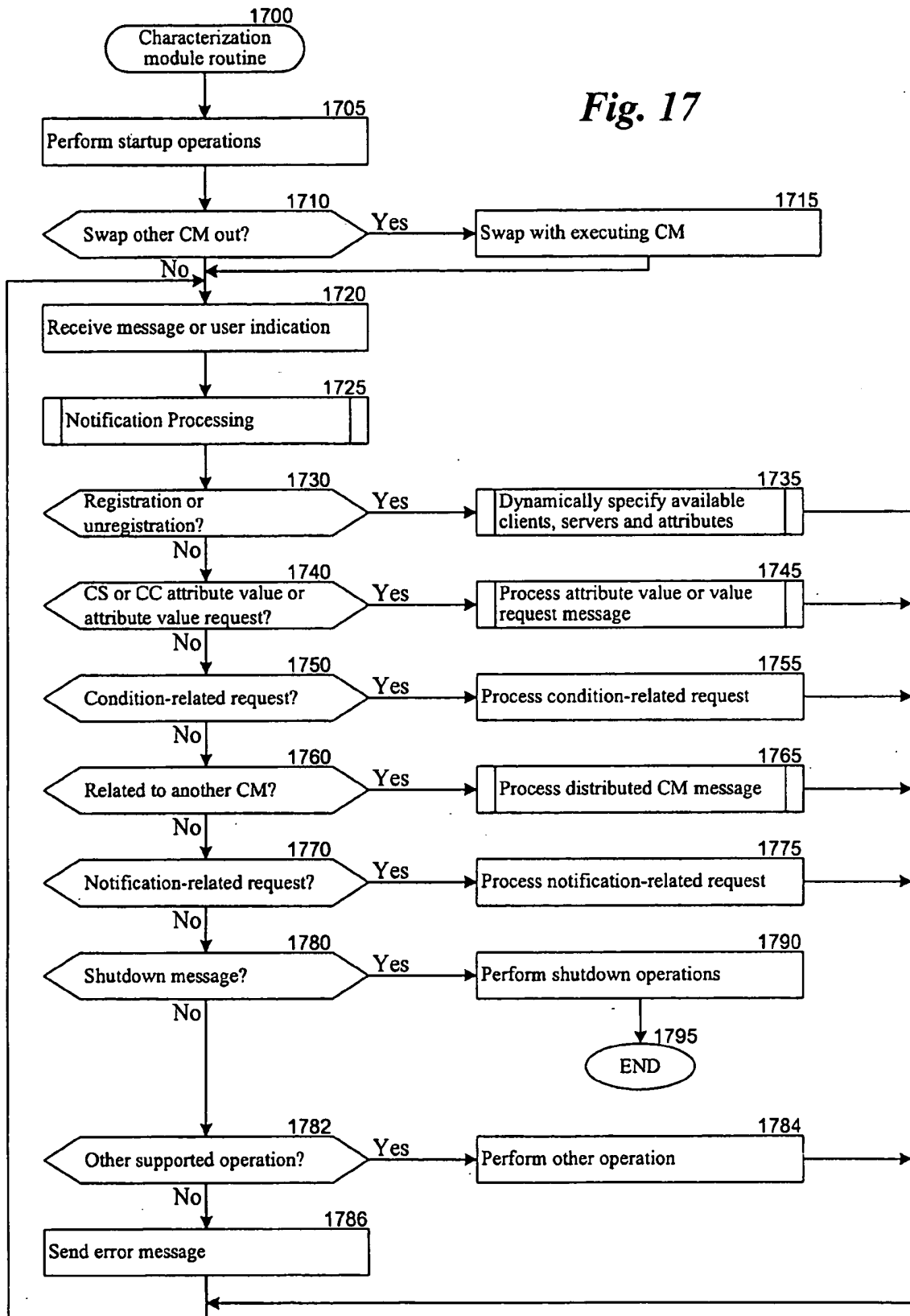
Recording

*Fig. 15*



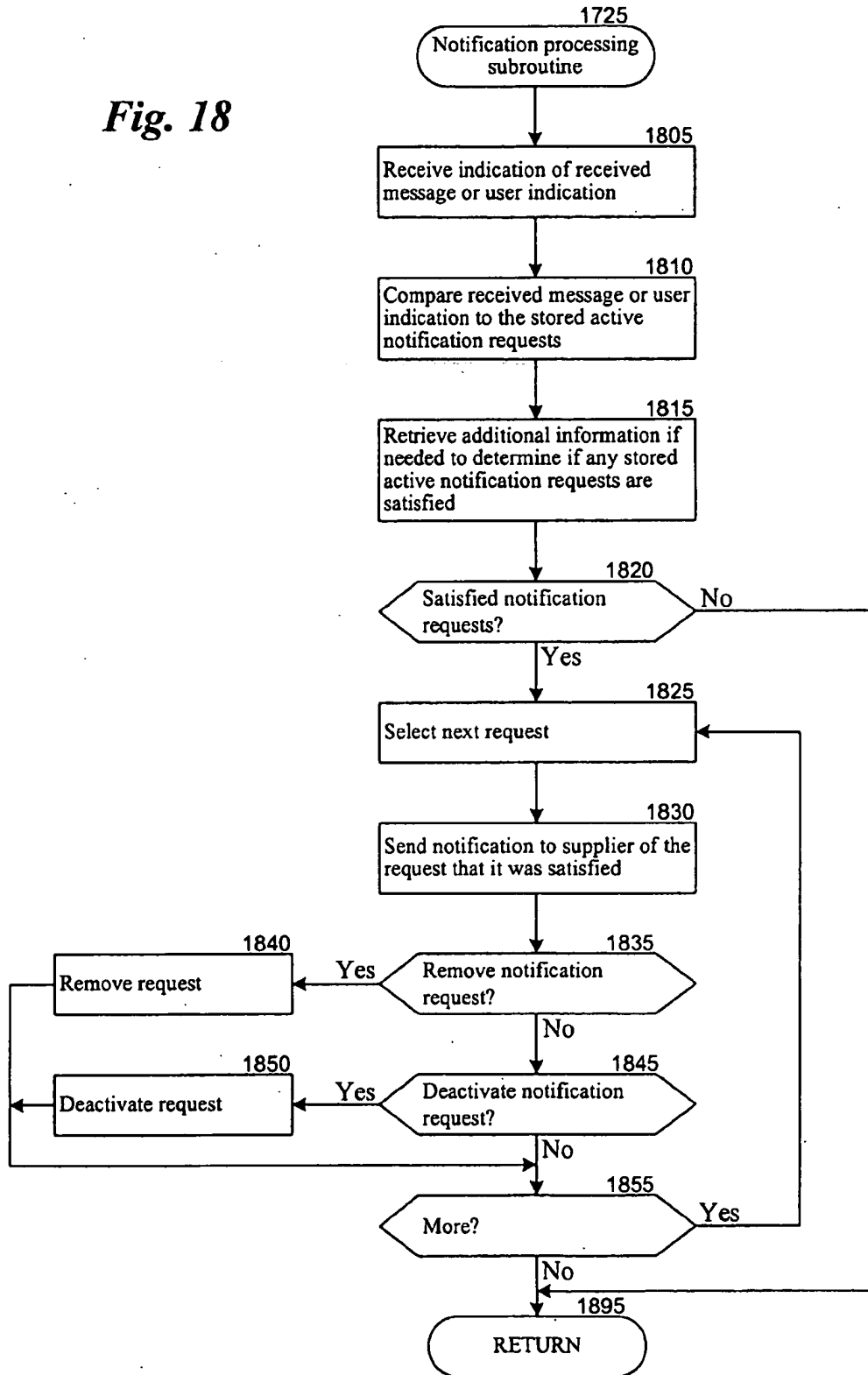
- 1) User Setting
  - a) Mental Context
    - i) Meaning
    - ii) Cognition
      - (1) Divided User Attention
      - (2) Task Switching
      - (3) Background Awareness
    - iii) Solitude
    - iv) Privacy
      - (1) Desired Privacy
      - (2) Perceived Privacy
    - v) Social Context
    - vi) Affect
  - b) Physical Situation
    - i) Body
      - (1) Biometrics
      - (2) Posture
      - (3) Motion
      - (4) Physical Encumbrment
        - (a) Senses
          - (i) Eyes
          - (ii) Ears
          - (iii) Tactile
          - (iv) Hands
          - (v) Nose
          - (vi) Tongue
        - (b) Workload demands/effects
        - (c) Interaction with computer devices
        - (d) Interaction with people
        - (e) Physical Health
    - ii) Environment
      - (1) Time/Space
      - (2) Objects
      - (3) Persons
        - (a) Audience/Privacy Availability
          - (i) Scope of Disclosure
          - (ii) Hardware affinity for privacy
          - (iii) Privacy Indicator for User
          - (iv) Privacy Indicator for Public
          - (v) Watching Indicator
          - (vi) Being Observed Indicator
      - (4) Ambient Interference
        - (a) Visual
        - (b) Audio
        - (c) Tactile

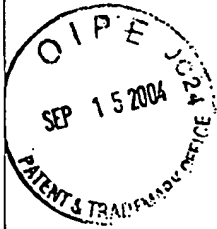
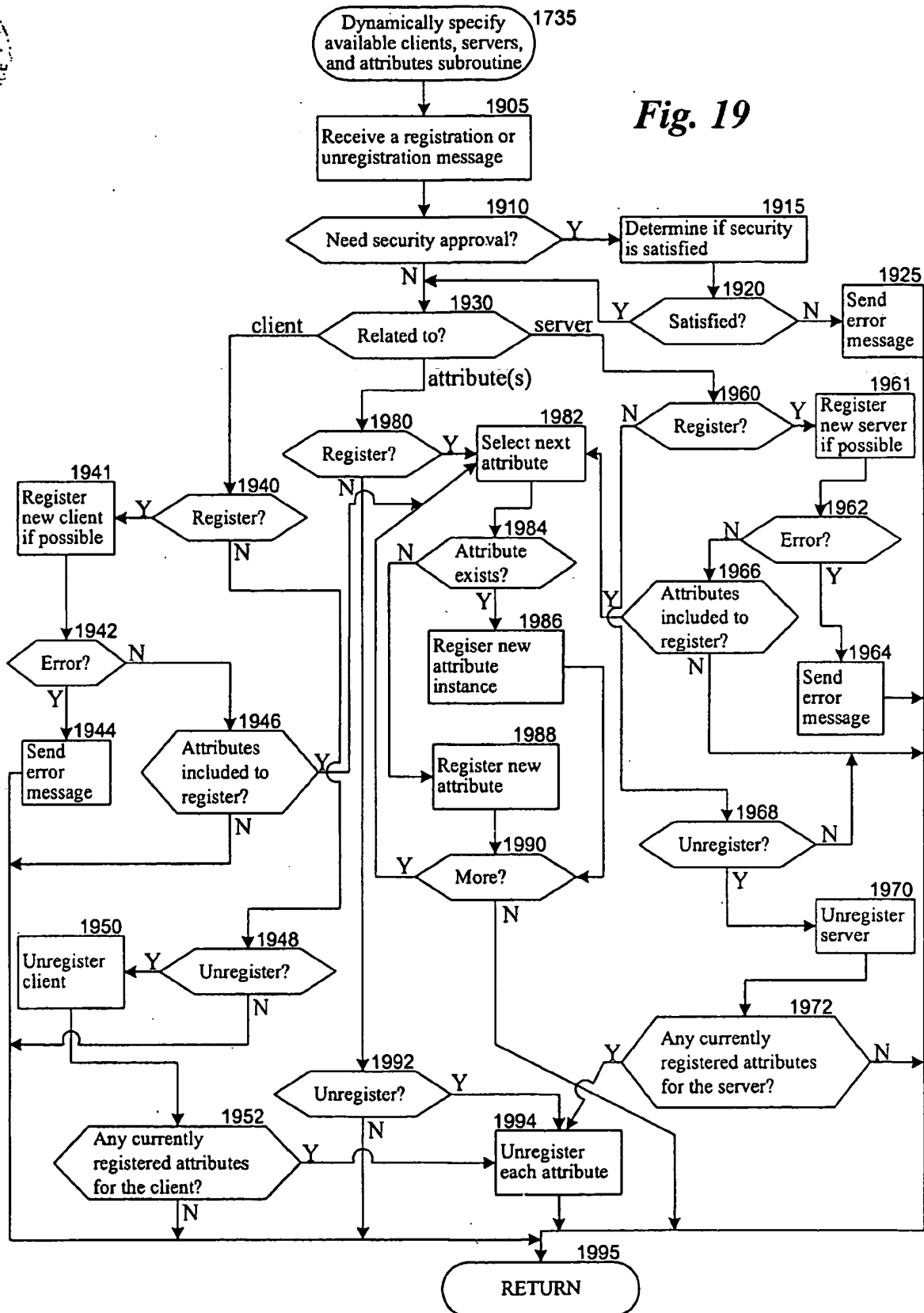
- Fig. 16*
- 2) Computer
    - a) Power
    - b) Configuration
      - i) User Input Systems
        - (1) Hand/Haptic
          - (a) Keyboard/Keystrokes
        - (2) Voice/Audio
        - (3) Eye Tracking
        - (4) Cursors
          - (a) Axis
          - (b) Resolution
            - (i) Selection
            - (ii) Invocation
        - (c) Accelerators
      - ii) Output Systems
        - (1) Visual
          - (a) Resolution
        - (2) Audio
          - (a) Public/Private
        - (3) Haptic
      - iii) External Resources
        - (1) I/O devices
        - (2) Connectivity
    - c) Data
      - i) Quantity/State
      - ii) Urgency/Importance
        - (1) Use of Prominence
      - iii) Modality
      - iv) Sensitivity/Purpose
        - (1) Privacy Issues
        - (2) Use of Association
        - (3) Use of Safety
      - v) Source/Ownership
        - (1) Types
          - (a) User generated
          - (b) Other computers or people
          - (c) Sensor
          - (d) PC State
        - (2) Use of Association

*Fig. 17*



**Fig. 18**



*Fig. 19*

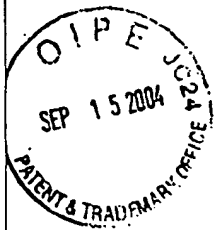
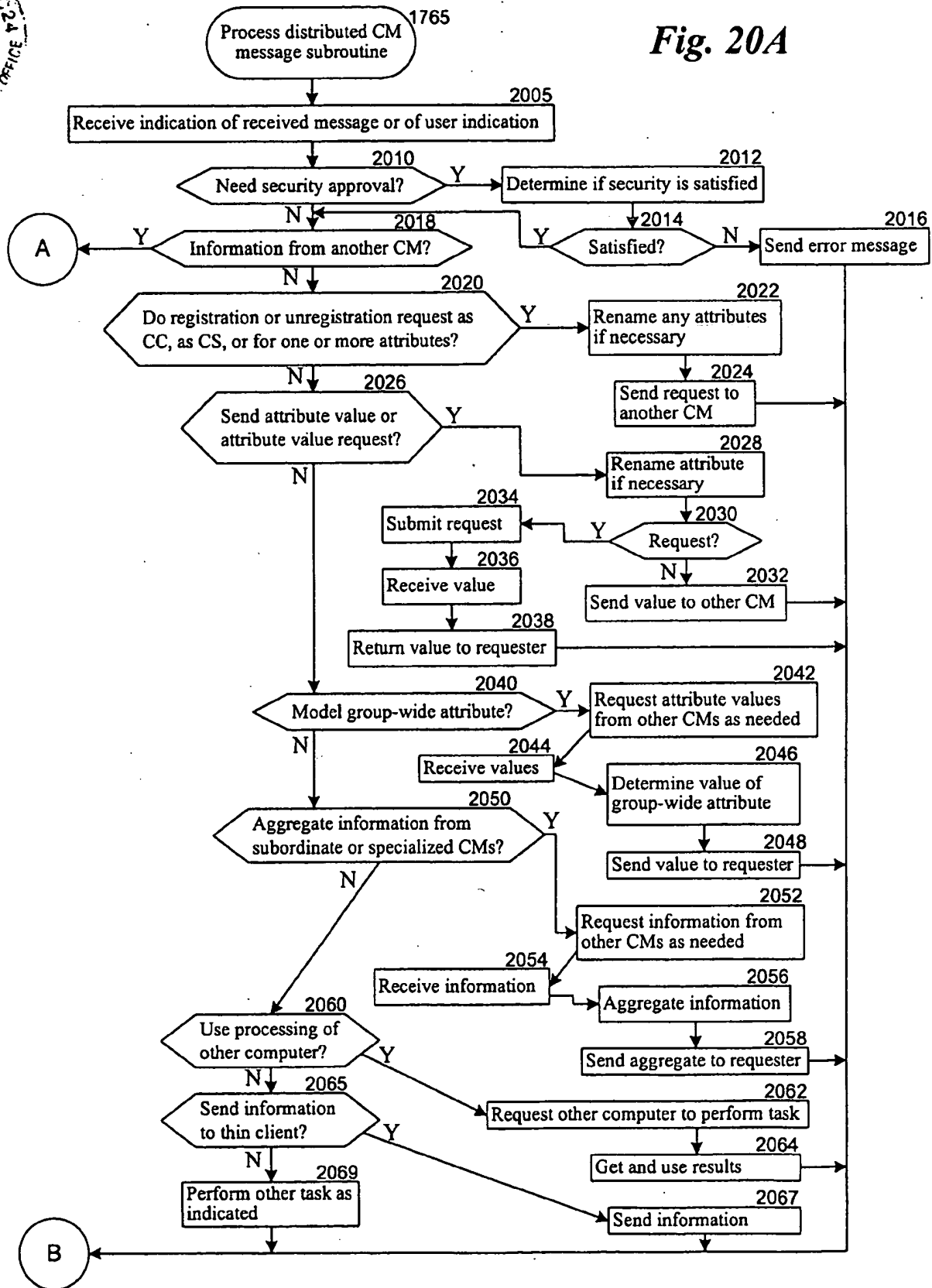
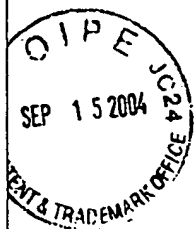


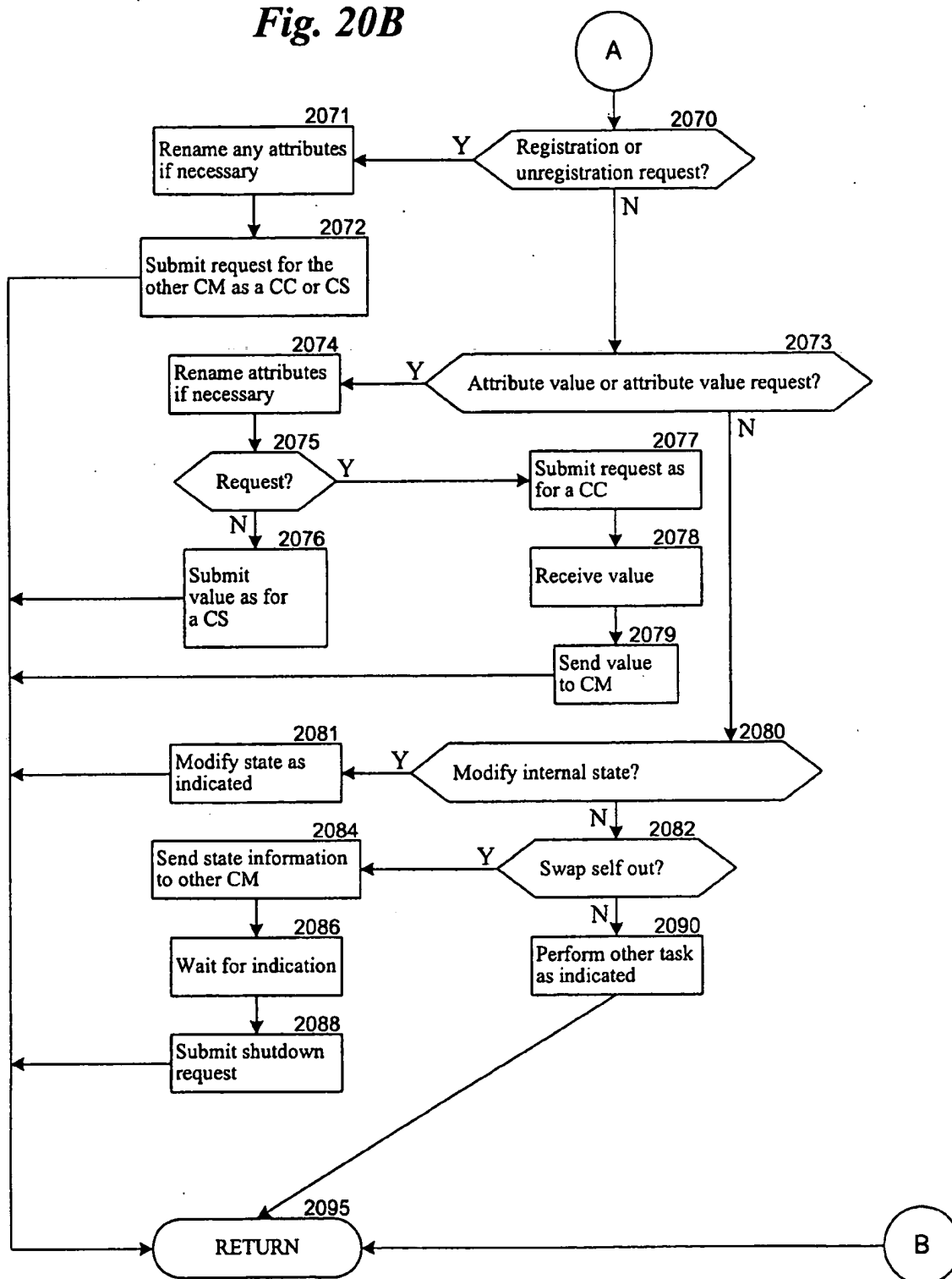
Fig. 20A

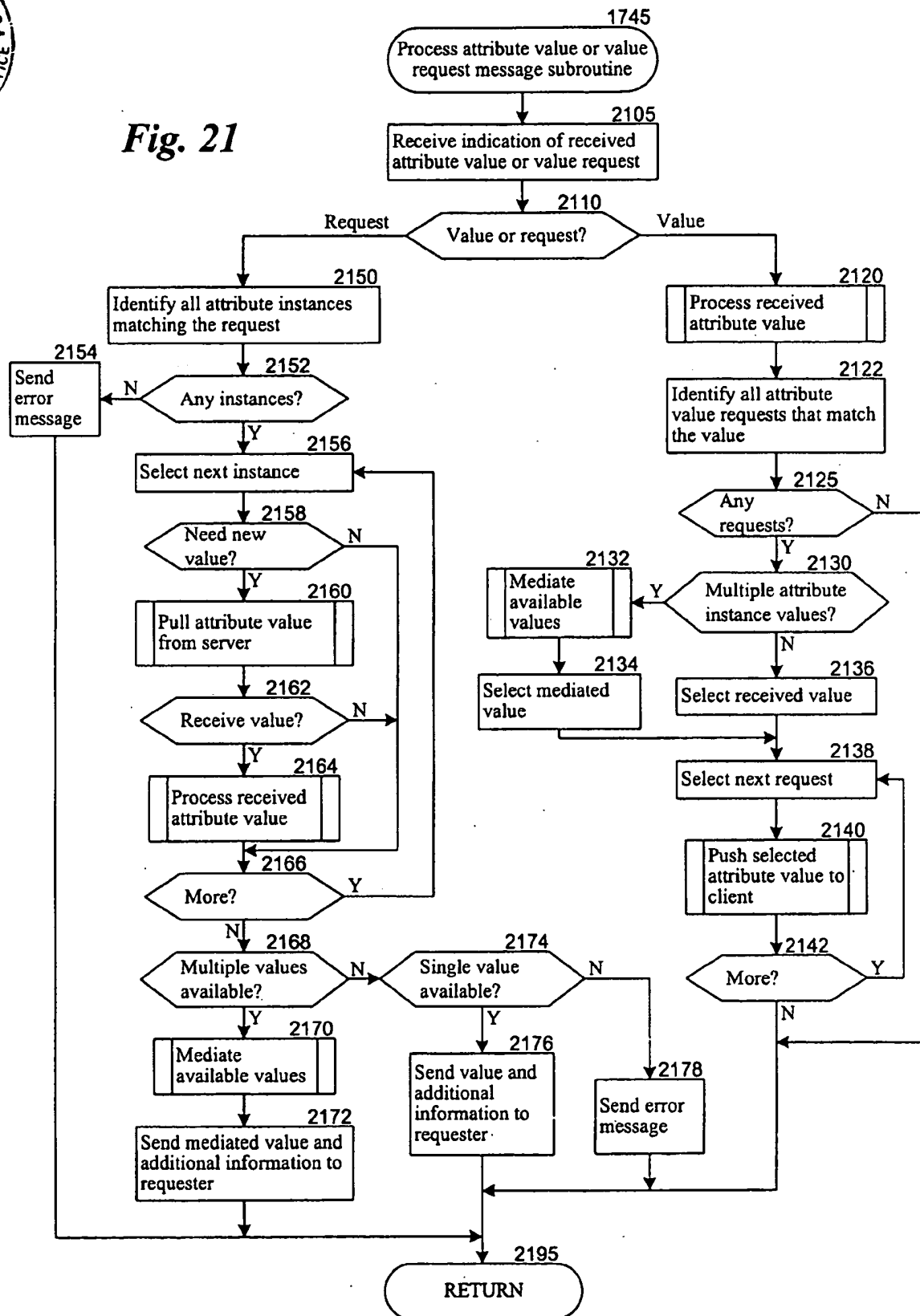






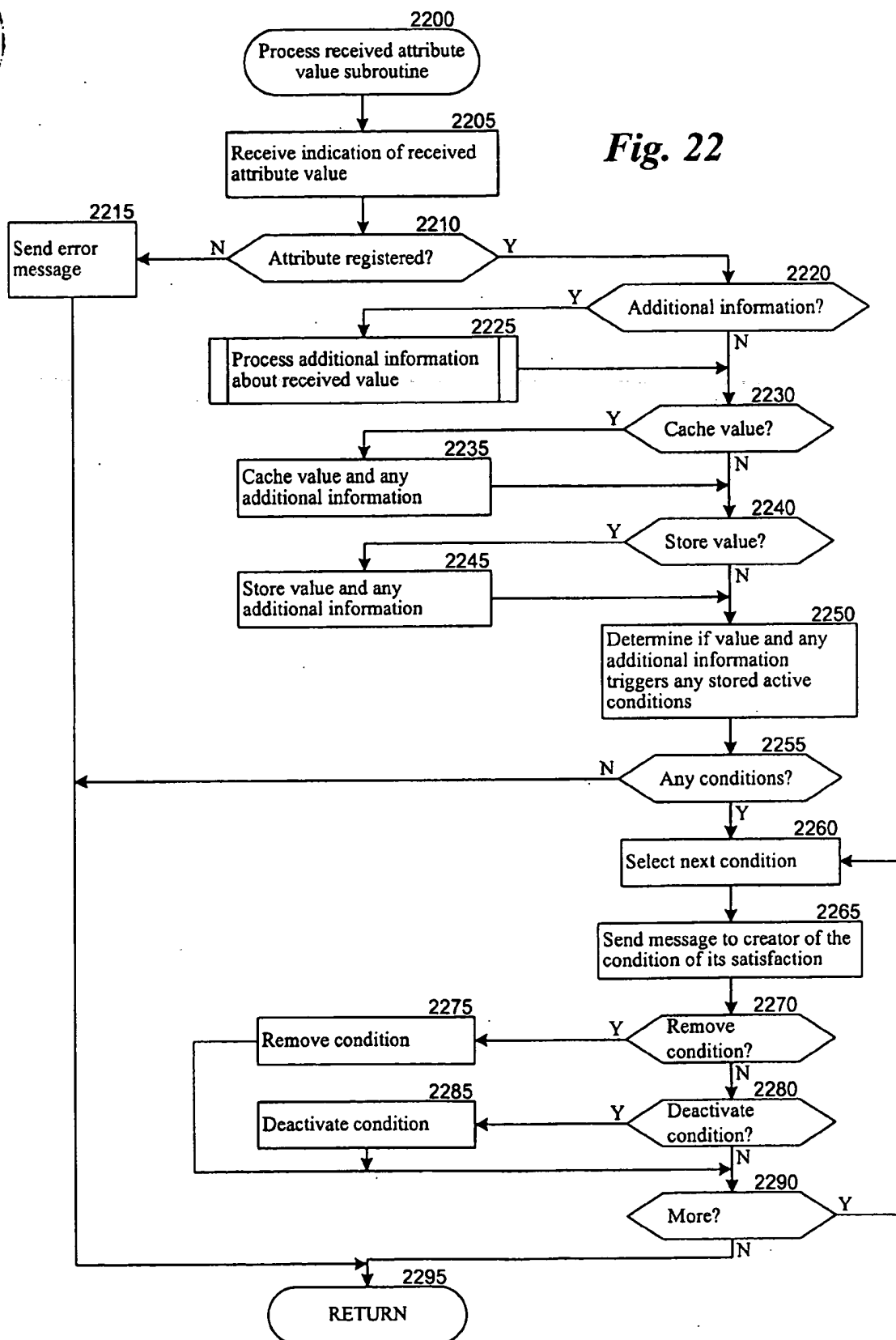
**Fig. 20B**



*Fig. 21*

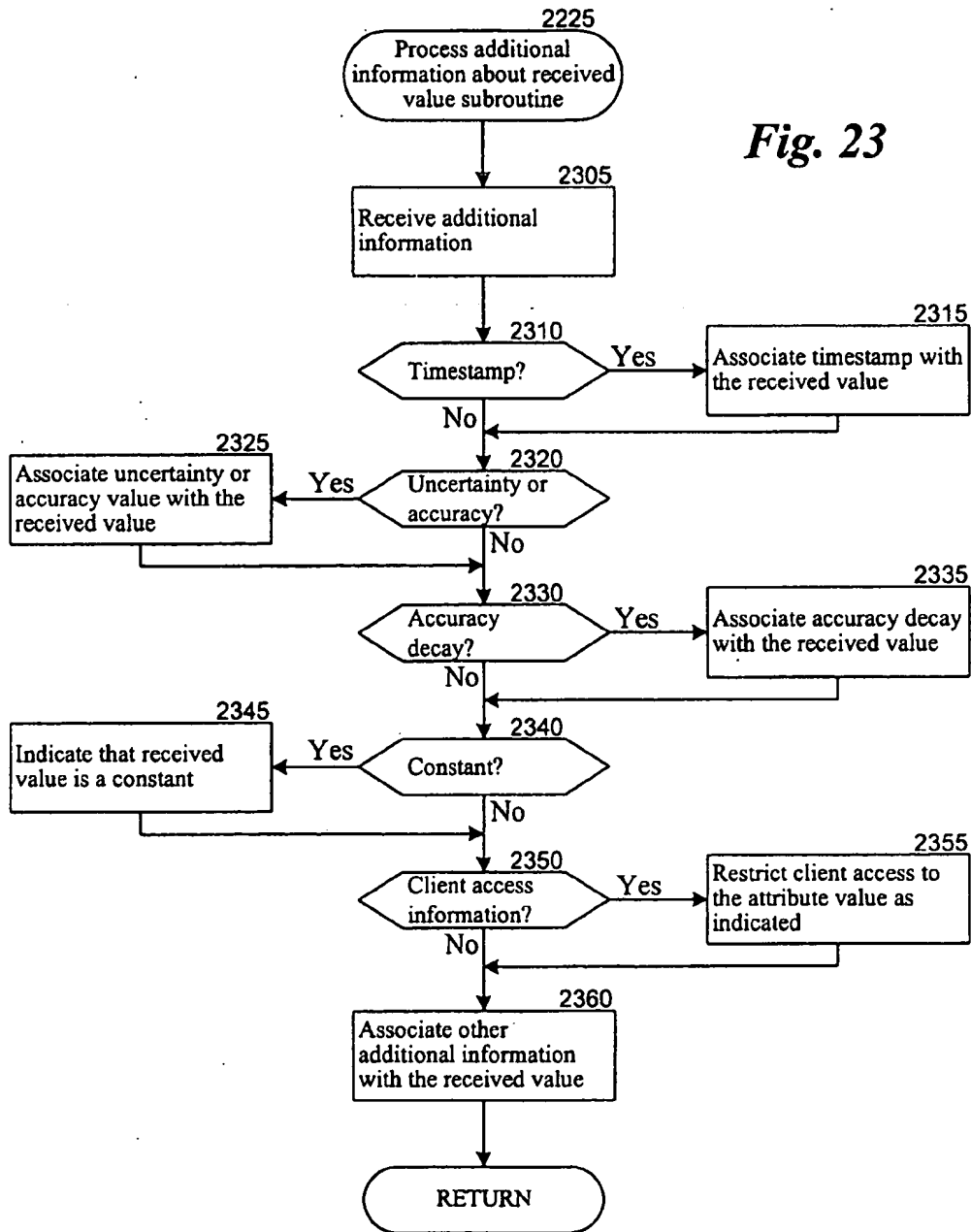


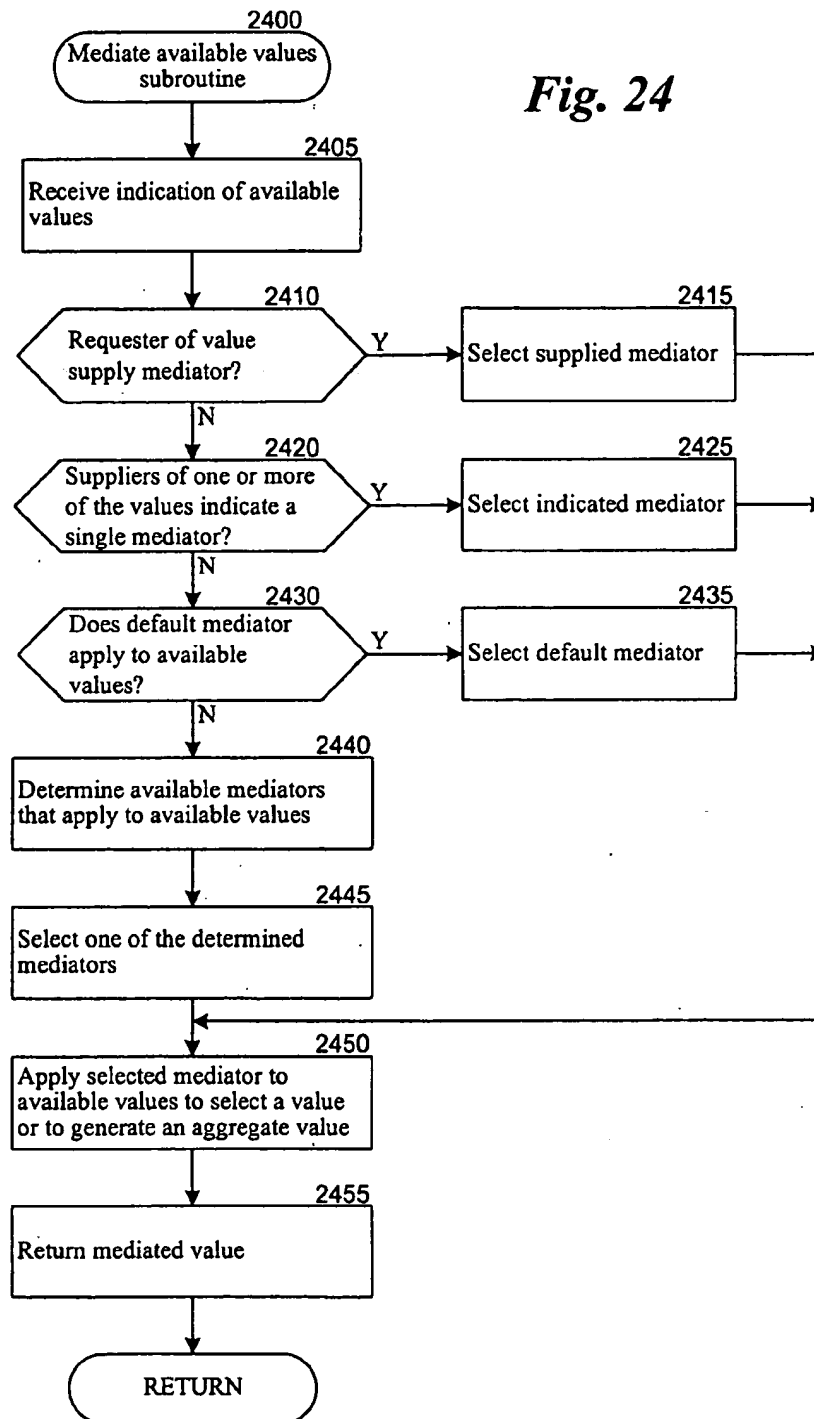
*Fig. 22*

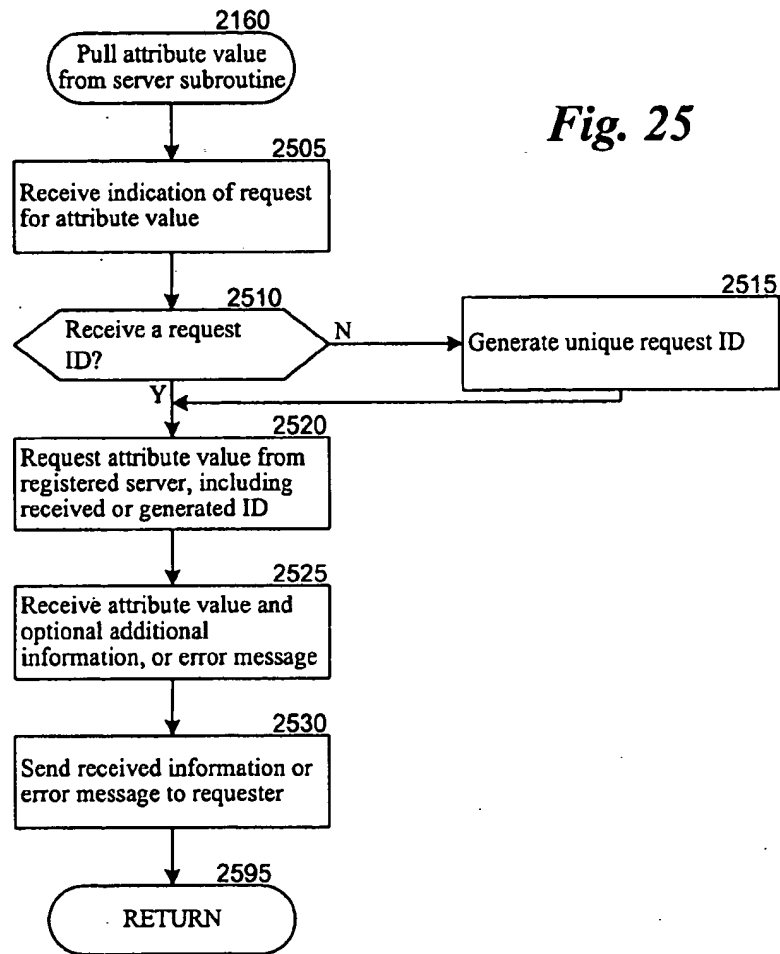
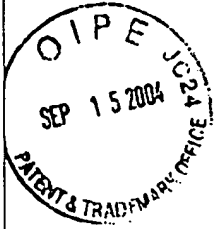


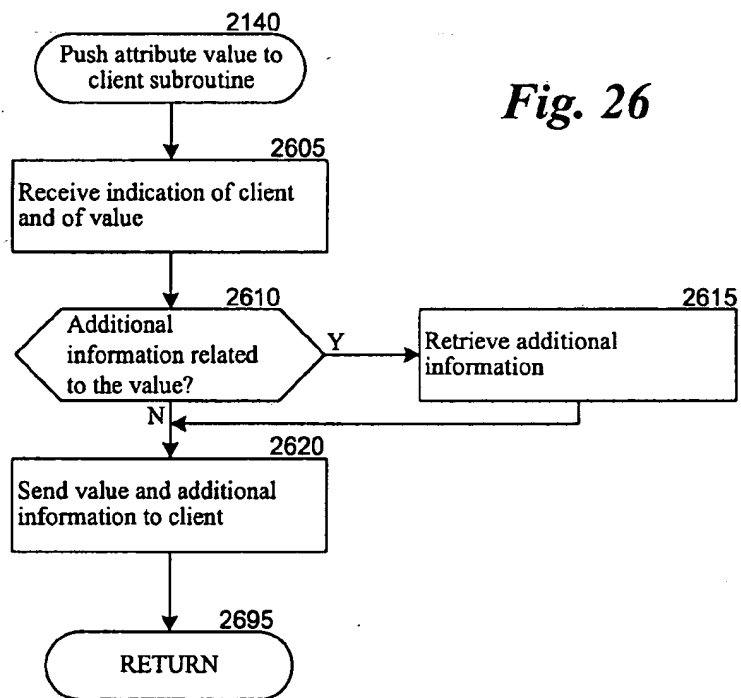


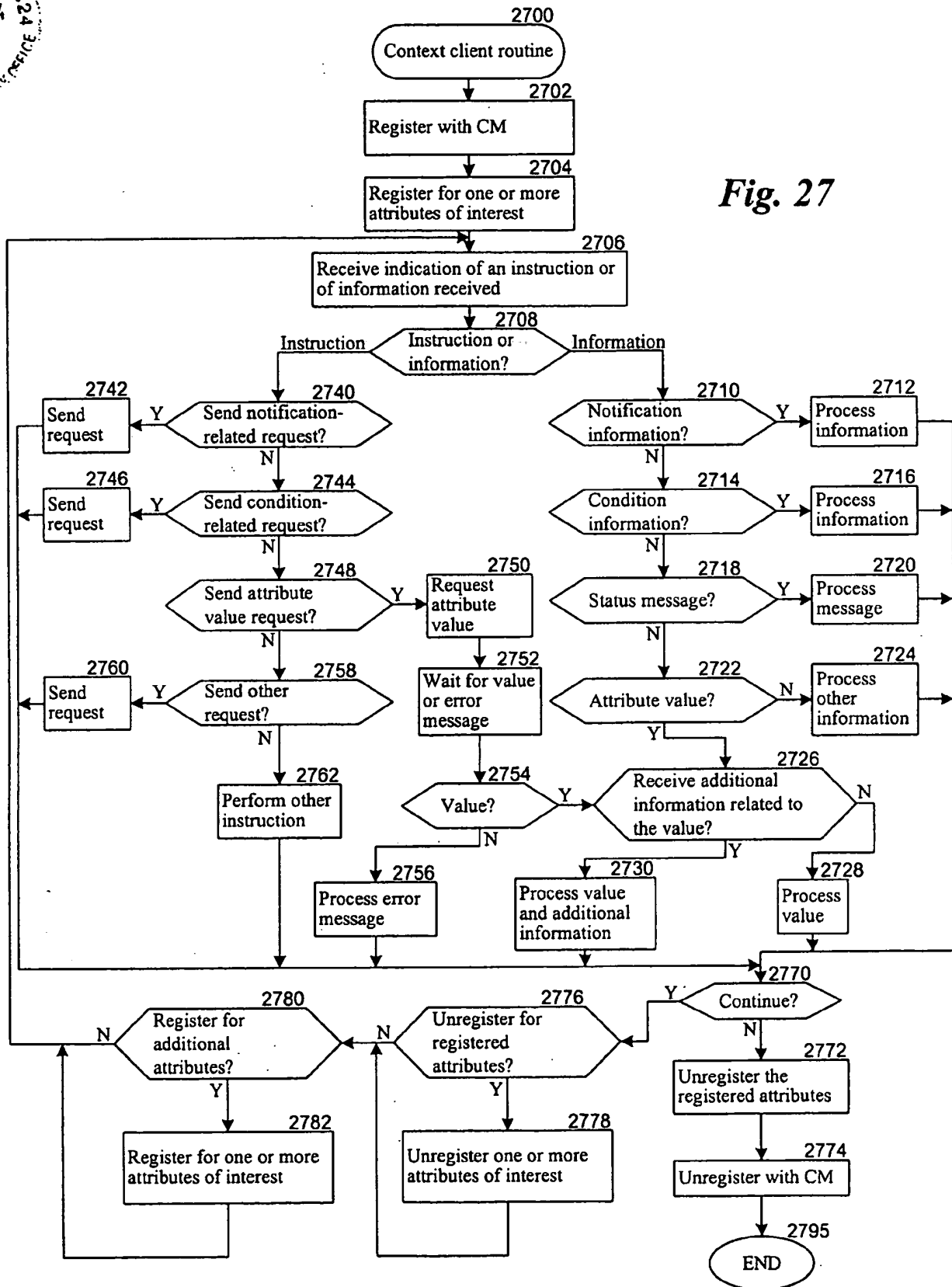
**Fig. 23**



*Fig. 24*





*Fig. 27*



*Fig. 28*